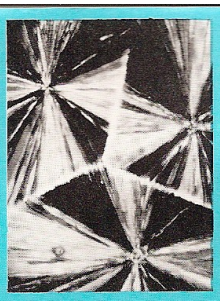

AO POL STAR

POLARIZING MICROSCOPE SERIES 110

10X WIDE FIELD EYEPIECE WITH CROSS HAIR RETICLE AND EXTRA LARGE 20mm FIELD OF VIEW

90° CROSS HAIR ORIENTATION SLOT

45° CROSS HAIR ORIENTATION SLOT

IRIS DIAPHRAGM

FLIP-IN FOCUSABLE BERTRAND LENS

FIXED ANALYZER

ONE PIECE ARM FOR MAXIMUM STABILITY

FOCUSABLE, GRAVITY LOADED NOSEPIECE ELIMINATES SPECIMEN AND OBJECTIVE DAMAGE

COMPENSATOR SLOT

STAGE LOCK SCREW

4X, 10X & 40X OBJECTIVES

GRADUATED, ROTATABLE CIRCULAR STAGE

LOW POSITIONED COAXIAL COARSE & FINE CONTROLS

STAGE CENTERING SCREWS

CONDENSER CENTERING KNOBS

GRADUATED, ROTATABLE POLARIZER

BUILT-IN HALOGEN ILLUMINATOR & TRANSFORMER PROVIDES SUPERIOR PERFORMANCE WITH THE UTMOST IN CONVENIENCE

SMOOTH HIGH QUALITY FINISH

COMPENSATORS (Standard DIN Size – 6.0mm x 20mm)	1886	1/4 Wave Mica Plate
	1887	Full Wave
CONDENSERS & CONDENSER MOUNTS	1091	Auxiliary Condenser
	1092	Condenser Mount
	1087S	Abbe Condenser N.A. 1.25 Strain Free
ILLUMINATORS & LAMPS	1130E	In Base Transformer & Tungsten Halogen Illuminator for 220V, 50Hz Lamp
	1120	Replacement Lamp for 1130 Illuminator 6V, 20W Tungsten Halogen

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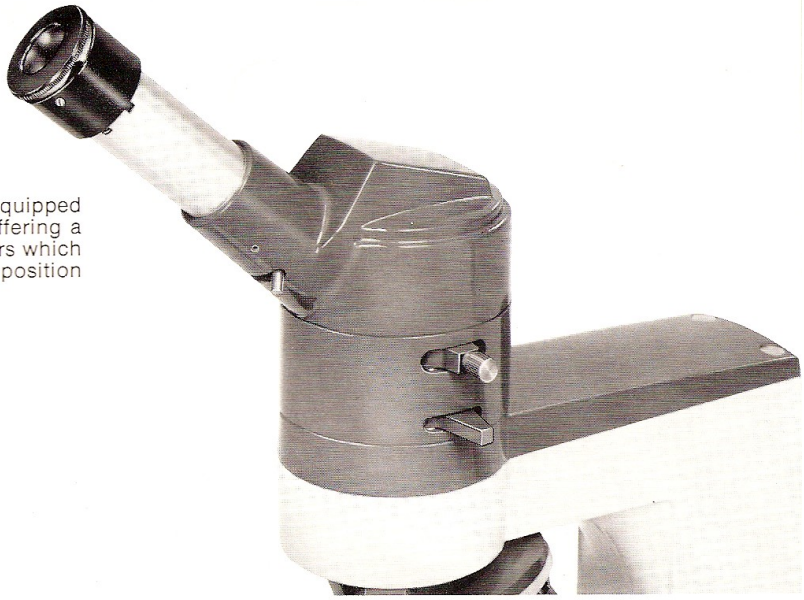
INSTRUMENT DIVISION
BOX 123, BUFFALO, NY 14240

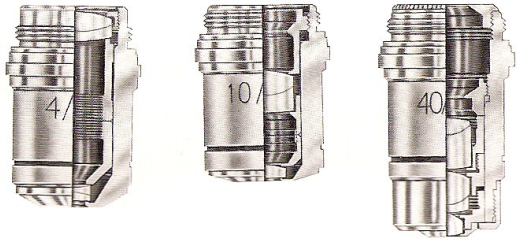
SB Pol. 110 3/81

Printed in U.S.A.

- **Extra Wide Field**
- **Cross Hair Orientation**

The AO POL STAR Polarizing Microscope is equipped with a wide field 10X focusable eyepiece offering a full 20mm field of view. It also has cross hairs which can be oriented in either a 45° or 90° viewing position for mineral identification.





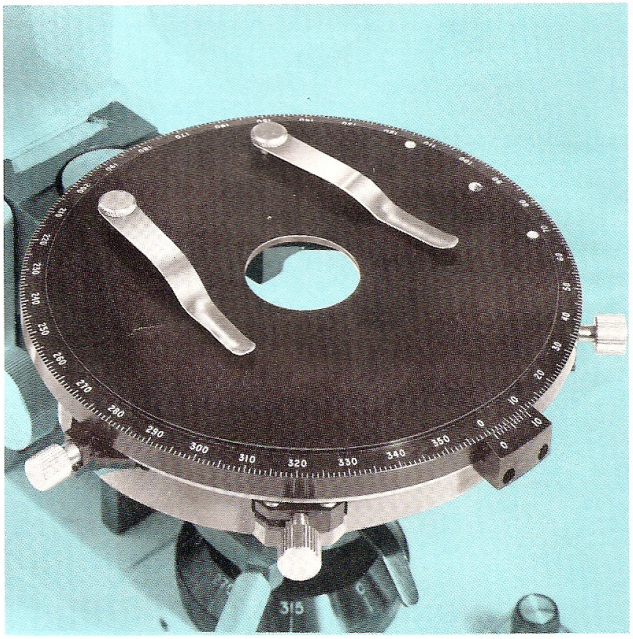
- **Superior Image Quality**
- **Bright, Contrasty Interference Figures**

The performance of any microscope is only as good as its optical system. Therefore, the AO POL STAR Polarizing Microscope comes equipped with a 4X Plan Achromatic, 10X strain free Plan Achromatic, and a 40X strain free Achromatic with N.A. 0.85.

All objectives are parcentered and parfocalized to minimize centering and focusing time. To insure stability and smooth operation, the objective nosepiece is of ball bearing construction. Traditional color coding assures quick positioning of the desired objective into the optical path.

All essential optical surfaces are AMERICOTE™, an AO exclusive coating process which decreases internal reflections, improves light transmission and image contrast.

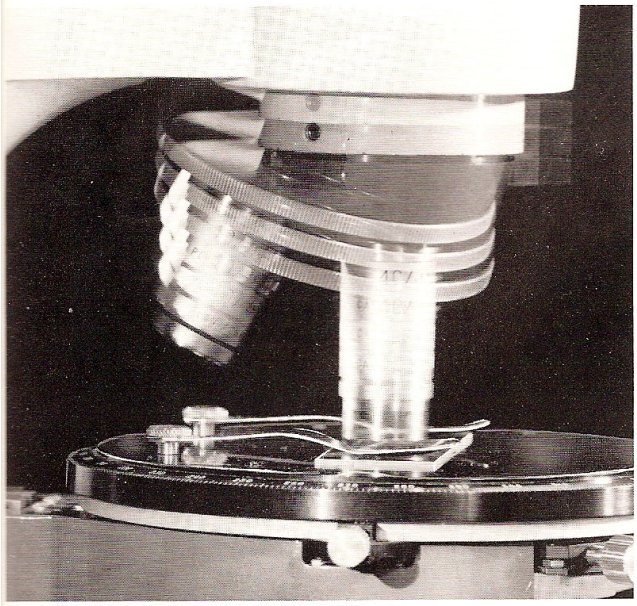
Of utmost importance is the contribution of infinity correction to optical performance. Constant tube length between objective and body is no longer necessary. This exclusive AO design results in a new level of exceptional performance and optical excellence.



- **Graduated**
- **Rotatable**
- **Circular Stage**

The AO POL STAR Polarizing Microscope's 360° rotatable, circular stage allows the specimen to be completely rotated and still remain centered to the optical axis.

The stage is marked in degrees with a vernier scale reading to one-tenth of a degree and is precentered at the factory. Two centering knobs are provided for future centering. A locking screw is also included so the stage can be set in a fixed, non-rotatable position.

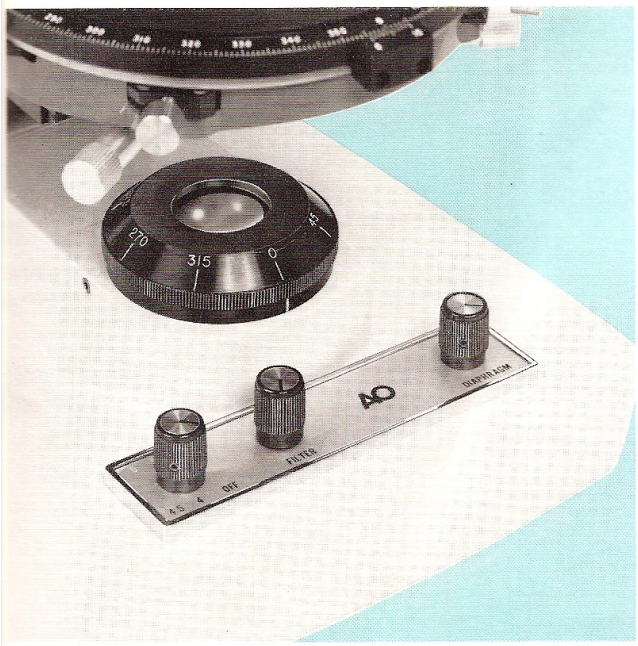


• Unique Focusing Nosepiece Concept

Only the nosepiece assembly moves to focus objective to specimen. Since the stage is not part of the focusing procedure, it is rigidly attached to the stand. The result is a stable, vibrationless system, free from the effects of hand pressure on the stage.

The maintenance-free focusing mechanism is enclosed in the microscope stand assembly, protected from dirt or damage. Coaxial coarse and fine adjustment controls are mounted low on the stand for comfortable, convenient operation.

The nosepiece is gravity loaded. There is no positive downward force. If the objective is accidentally lowered onto the slide, the nosepiece assembly can "give," avoiding objective or specimen damage. Movement of the nosepiece on a ball bearing slideway insures smooth positive action, free from backlash.

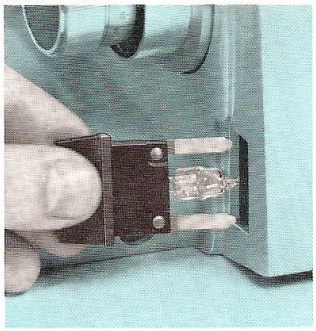


• More Light-Increased Lamp Life
• Easy Change Bulb
• Clean Burning, High Color Temperature Tungsten Halogen Illuminator

AO's built-in Illuminator is one of the most advanced light sources ever offered on a laboratory microscope. It combines superior performance with convenient operation. All of the following features are incorporated:

- Quick change High Intensity 20W Tungsten Halogen Lamp
- Continuously variable intensity built-in transformer
- Solid State construction
- Built-in field diaphragm and 10% neutral density filter
- Highly corrected lens system

Intensity, Field Diaphragm and Neutral Density Filter controls are conveniently located on the front of the base. Quick, efficient set up of desirable Koehler illumination is assured.



American Optical

The AO Series 110 POL STAR Polarizing Microscope offers transmitted light examinations, including orthoscopic and conoscopic investigations, for industrial, teaching and laboratory applications in:

CHEMISTRY • BIOLOGY • GEOLOGY • PETROLOGY • MINERALOGY
METALLURGY • TOXICOLOGY • CRYSTALLOGRAPHY • PULP/PAPER • PAINT
PLASTICS • PHARMACEUTICALS • GLASS • CERAMICS • FORENSIC SCIENCES
POLLUTION CONTROL • GOUT/PSEUDO GOUT

The broad range of information that can be quickly obtained by observing the optical characteristics of a specimen, such as, refractive index, the degree of double refraction, intrinsic color, shape and cleavage, with the AO POL STAR Polarizing Microscope can mean significant time, money and materials savings ... particularly in research and process control areas. It is also ideal as a teaching microscope for courses in Chemistry, Geology, Petrology, Mineralogy, etc.

Figure 1 schematically illustrates the two general systems used to observe, classify and identify substances.

The orthoscopic system is applied to view the sample under crossed polarizer and analyzer. If the specimen is invisible or shows no birefringent properties, it is classified as isotropic; if it exhibits birefringence or is alternately bright and dark or colored upon stage rotation, it is classified as anisotropic.

The conoscopic system is the means for viewing the back aperature of a high power objective and reveals the interference figure produced by an anisotropic specimen. This method permits the classification of anisotropic materials as uniaxial or biaxial; and by insertion of compensators into the compensator slot, determines the nature of birefringence and optic sign.

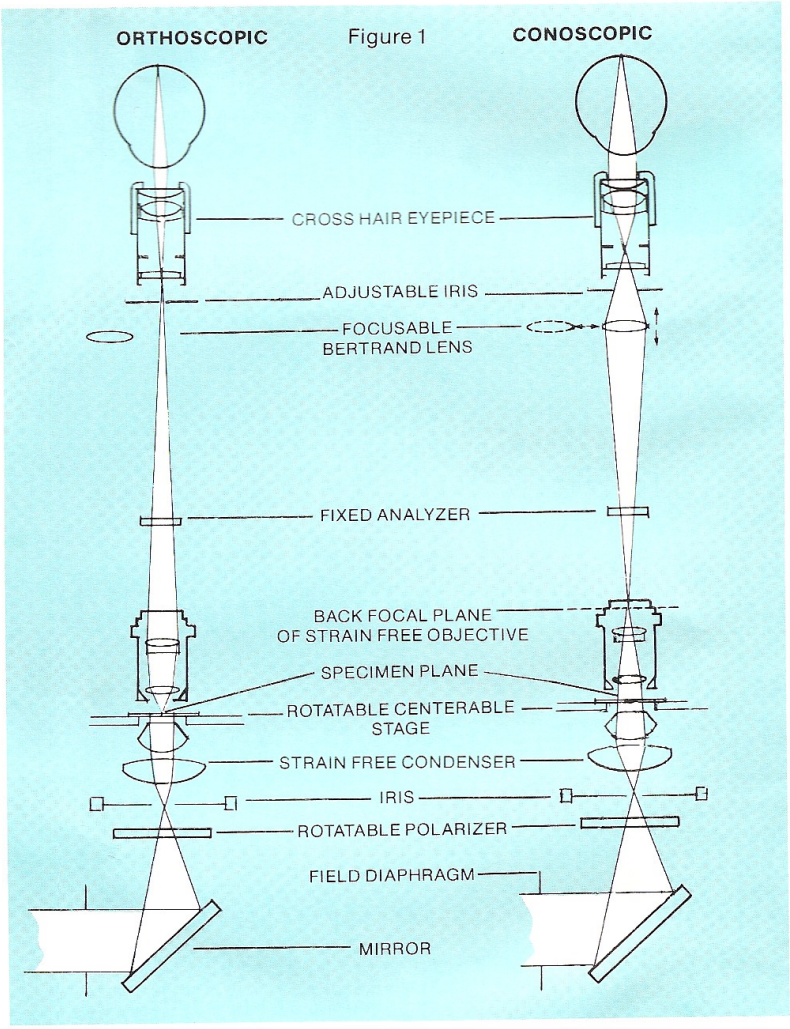
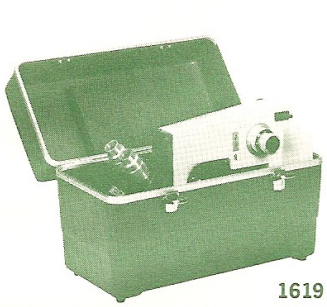
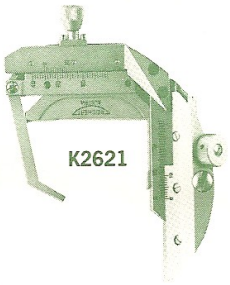


Figure 1

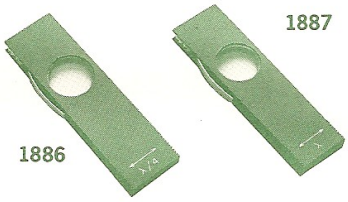
1882



1619



K2621



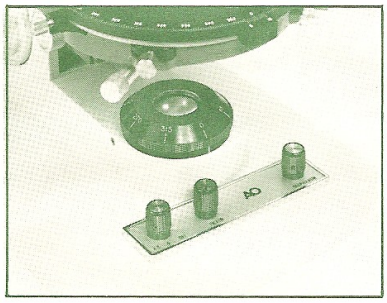
1886

1887

1091S

1092

1087S



1130

CATALOG NUMBER	DESCRIPTION	PRICE
BODY		
1889	Monocular with focusable Bertrand lens and fixed analyzer for POL STAR, only	$525.00
STAGE		
1882	Graduated, circular, complete with bracket	750.00
K2621	Mechanical Stage Attachment for 28mm x 48mm slides	300.00
CABINET		
1619	Deluxe Cabinet	75.00
COMPENSATORS and POLARIZER		
1886	¼ Wave Mica Plate	72.00
1887	Full Wave Plate	72.00
1881	Rotatable Polarizer	160.00
CONDENSERS AND CONDENSER MOUNT		
1091S	Auxiliary Condenser	35.00
1092	Condenser Mount	35.00
1087S	Abbe Condenser N.A. 1.25 Strain-free	55.00
ILLUMINATORS		
1130	In-Base Transformer and Tungsten Halogen Illuminator	290.00
1130E	Same as 1130, but for 220V, 50 Hz.	325.00
LAMP		
1120	Replacement Lamp 6V, 20W Tungsten Halogen	7.00

All prices and terms of sale are subject to change without notice.
Applicable taxes are in addition to prices stated.
The equipment supplied may not agree in all details with our description or illustrations because instruments are subject to modification and improvement.

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INSTRUMENT DIVISION
BOX 123, BUFFALO, NY 14240

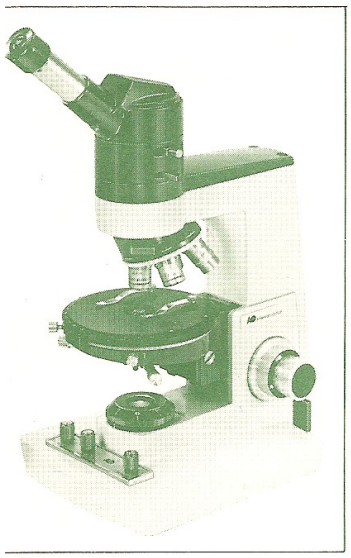
SBH110 POL PL 3/81

Printed in U.S.A.

PRICE LIST

Effective February 1, 1981

Series H110 POL STAR® Microscope



H110M-POL

STAND & ILLUMINATOR	BODY
 **H110** 1880 Stand, with Quadruple Nosepiece 1130 In-Base Transformer and Illuminator, 115V, 60 Hz (220V, 50 Hz available)	 **M** 1889 Monocular

CATALOG NUMBER	PRICE
H110M-POL	$3100.00

STAGE, OBJECTIVES, CONDENSERS
 **POL** 1882 Circular, Graduated, Rotatable Stage 1890 10X W.F. Eyepiece 1017S 4X Objective 1019S 10X Objective 1891 40X Objective 1091S Auxiliary Condenser 1092 Condenser Mount 1087S Abbe Condenser N.A. 1.25, Strain-free

ALTERNATE PARTS AND ACCESSORIES

1017S 1019S 1022S 1891 1029S

1890

CATALOG NUMBER	DESCRIPTION	PRICE
OBJECTIVES		
1017S	4X, N.A. .12 Strain-free, Planachromatic	$ 95.00
1019S	10X, N.A. .25 Strain-free, Planachromatic	95.00
1022S	20X, N.A. .50 Strain-free, Planachromatic	150.00
1891	40X, N.A. .85 Strain-free, Achromatic	275.00
1029S	100X, N.A. 1.25 Strain-free, Planachromatic	340.00
EYEPIECE		
1890	10X W.F. with cross-lines	95.00

AO® POLSTAR™

POLARIZING MICROSCOPE
Series 110

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